

Application Serial No. 10/734,759 Reply to Office Action mailed September 9, 2005

LISTING OF CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the present application:

Claims 1-35 (canceled)

36. (Withdrawn) A method of monitoring renal tubular epithelial differentiation comprising:
- a) isolating at least one cell
 - b) placing said cell into a rotating wall vessel containing a cell culture comprising culture media and culture matrix; and
 - c) monitoring expression of greater than one gene in an array, wherein said expression of said genes is indicative of differentiated renal tubular epithelial cells.
37. (Withdrawn) The method of claim 36, wherein each gene in said genes is selected from the group consisting of 1- α -hydroxylase, megalin, cubulin, erythropoietin, manganese super oxide dysmutase, interleukin-1 β , a GABA transporter gene, β actin, villin, extracellular calcium sensing receptor, ICAM, VCAM, and γ -glutamyl transferase.
38. (Withdrawn) The method of claim 36, wherein said expression of said genes is increased.
39. (Withdrawn) The method of claim 38, wherein each gene in said genes is selected from the group consisting of 1- α -hydroxylase, megalin, cubulin, erythropoietin, manganese super oxide dysmutase, interleukin-1 β , a GABA transporter gene, β actin, villin, extracellular calcium sensing receptor, ICAM, VCAM, and γ -glutamyl transferase.
40. (Withdrawn) The method of claim 36, wherein said expression of said genes is decreased.
41. (Withdrawn) The method of claim 40, wherein each gene in said genes is selected from the group consisting of 1- α -hydroxylase, megalin, cubulin, erythropoietin, manganese super oxide dysmutase, interleukin-1 β , a GABA transporter gene, β actin, villin, extracellular calcium sensing receptor, ICAM, VCAM, and γ -glutamyl transferase.
42. (Currently Amended) A method of producing active renal epithelial cells comprising:
- a) isolating renal stem cells; and
 - b) culturing said renal stem cells in a rotating wall vessel containing a cell culture

Application Serial No. 10/734,759 Reply to Office Action mailed September 9, 2005

comprising culture media and culture matrix, wherein gravity is substantially balanced in said rotating wall vessel by equal and opposite physical forces ~~comprising shear stresses~~.

43. (Canceled)
44. (Withdrawn) A method of producing active 1,25-dihydroxy vitamin D3 comprising:
 - a) isolating at least one cell;
 - b) placing said cell into a rotating wall vessel containing a cell culture comprising culture media and culture matrix; and
 - c) inducing 1,25-dihydroxy vitamin D3 production.
45. (New) The method of producing active renal epithelial cells of claim 42 wherein said culture matrix comprises micro-carrier beads.
46. (New) The method of producing active renal epithelial cells of claim 42 wherein said active renal epithelial cells are suitable for therapeutic use.
47. (New) The method of producing active renal epithelial cells of claim 42 wherein said active renal epithelial cells are suitable for diagnostic use.
48. (New) The method of producing active renal epithelial cells of claim 42 wherein said active renal epithelial cells are human cells.
49. (New) The method of producing active renal epithelial cells of claim 42 wherein said physical forces comprise sedimentational shear stress.
50. (New) The method of producing active renal epithelial cells of claim 42 wherein said physical forces comprise sedimentational shear stress and centrifugal forces.
51. (New) The method of producing active renal epithelial cells of claim 42 wherein said physical forces comprise viscosity and coriolis forces.